

672-011

Dart Aerospace Ltd.

Date: Friday, 23/01/2009 8:43:42 AM
 User: Julie Dawson

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 0H-58 SKIDTUBE ASSEMBLY
Job Number	: 45123A		
Estimate Number	: 10475		
P.O. Number	:	Part Number	: D058672041
This Issue	: 23/01/2009	S.O. No.	:
Prsht Rev.	: NC	Drawing Number	: D2922 REV A1
First Issue	: 1/1	Project Number	: N/A
Previous Run	: 40078	Drawing Revision	: A1
	Type : SKIDTUBES	Material	:
Written By	:	Due Date	: 10/02/2009
Checked & Approved By	: <u>JUD 09.01.23</u>	Qty:	1
Comment	: Est Rev:C 02.06.28 Re-format; ECN 258 KJ Est Rev:D 06.02.06 Added Dt8025 EC	Um:	Each

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

DC

DOCUMENT CONTROL

**Comment:** DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP D058-672-041 CHG 001

N/A

2.0

D2620

Skidtube, 206 Skidtube

**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2620

Bent Tube 3" OD

B44502

Pm 09-01-26

3.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1

**Comment:** LANDING GEAR RESOURCE 1

1-Deburr Fwd edge of tube

Pm 09-01-26

2-Weld D2794 cap as per QSI 004 and Dwg D2922. Use aluminum rod.

A/R Aluminum Rod

M110295

BE 09/01/26

3-Cut aft end of D2620 bent tube as per dwg D2922

4-Drill pilot holes using drill jig DT8480 and DT8025 open to 0.312" dia.

5-Drill holes for wearplates using DT 8487 Open to 0.297" dia.

6-Open holes for aft cap and tow ring as per Dwg D2922.

Pm 09-01-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

8-Remove inner indexing ridge on aft end of skidtubeas per Dwg D2922

9-Deburr and Blow out all chips form inside the tube

pm 09-01-26

4.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09-01-26 (1)

5.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 09-01-26 (1)

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

pm 09-01-26

7.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BE 09-01-26

8.0

D2923

Step, OH58 Skidtube



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2923 Web

B45209

pm 09-01-26

9.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open holes to finished size as per Dwg D2922(without cutting fluid)

2-Countersink crossbolt spacer holes as per Dwg D2922(without cutting fluid)

3-Deburr and Blow out all chips from inside the tube

4-Bond D2923 web in place as per QSI 015. Ensure holes lineup

A/R Sikaflex-291

Sikaflex expire date: *09-07-11*

M109883

pm 09-01-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Job Number: 45123A

Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/01/27 @

11.0

D2794

Forward Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Qty

Part Number

Description

Batch

1 D2794

Fwd Cap

B14588

BE 9-01-26

12.0

D2649

Cross Bolt Spacer



Comment: Qty.: 22.0000 Each(s)/Unit Total : 22.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

22 D2649

Crossbolt spacer

B44364

Amc 09-01-27

13.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld D2649 cross bolt spacers as per QSI 004 and Dwg D2922.(Remember to back drill each hole to 0.250" before welding the other side)

A/R Aluminum Rod

M109213 BE 09-01-28

3-Grind welds flush as per Dwg D2922

4-Counterbore 5/16" x 0.750" deep as per Dwg D2922

> DP 9-1-28

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 02/01/29 @

15.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

S 02/01/29 @

W/O:		WORK ORDER CHANGES					
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Job Number: 45123A

Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

POWDER COATING

POWDER COATING



Pressure wash -



FL 09/02/06 ①

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M104996

START TIME:

13:30

OVEN TEMPERATURE:

320°

FINISH TIME:

14:00

BR 09-02-09 ①

17.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



HL



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09-02-10

①

18.0

D26483

Wearpad



Comment: Qty.: 5.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

5 D2648-3

Wearpad

B43989

MD/FL 09/02/10

19.0

D265615

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2656-15

Wearshoe

B43991

MD/FL 09/02/10

20.0

D265621

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2656-21

Wearshoe

B38740

MD/FL 09/02/10

21.0

D2924

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2924

Wearshoe

B353608

MD/FL 09/02/10

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Job Number: 45123A

Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

MS27039108

Screw



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Pick:

Qty Part Number Description Batch

50 MS27039-1-08 Screw

m 110467

MD / FL 09/02/10

23.0

AN960JD10L

Washer



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Pick:

Qty Part Number Description Batch

50 AN960JD10L Washer

m 09632

MD / FL 09/02/10

24.0

ALS41032130

Insert



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Pick:

Qty Part Number Description Batch

50 ALS4-1032-130 Insert

m 108600

or (see QSI 017)

** MD / FL 09/02/10*

25.0

D26511

Plug



Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

Qty Part Number Description Batch

20 D2651-1 Plugs

B43990

MD / FL 09/02/10

26.0

D26513

O-Ring



Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

Qty Part Number Description Batch

20 D2651-3 O-Rings

B43849

MD / FL 09/02/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 45123A

Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2646 Aft Cap B43801

MO/FL 09/02/10

28.0

MS27039108

Screw



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 MS27039-1-08 Screw M110467

MO/FL 09/02/10

29.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 AN960JD10L Washer M109632

MO/FL 09/02/10

30.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearpads as per dwg D2922. Insert a drop of Sikaflex at insert hole before installing wearplates.

A/R Sikaflex-291

Sikaflex expire date: 09/11

M109833

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2922

3-Install D2646 Aft Cap and seal with Sikaflex adhesive.Clean excess adhesive

A/R Sikaflex-291

Sikaflex expire date: 09/11

M109833

MO/FL 09/02/10
FL

3- Wing Walk as per Dwg D2922 and QSI 005 4.4

M110454

09-02-10

Batch:

W/O:		WORK ORDER CHANGES					
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Job Number: 45123A

Part Number: D058672041

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09/02/10 (K)

32.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09/02/10 (K)

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

PPP 45123

09/02/23

(K)

SP

34.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/02/23 JA

Job Completion



U 09.02.23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2922	REV. A SHEET 1 OF 2
DATE 99.10.14		TITLE OH-58 SKIDTUBE ASSEMBLY	SCALE NTS
A	99.10.14	NEW ISSUE	
A1	# CP 01.08.20	Ø0.640 WAS Ø0.625	

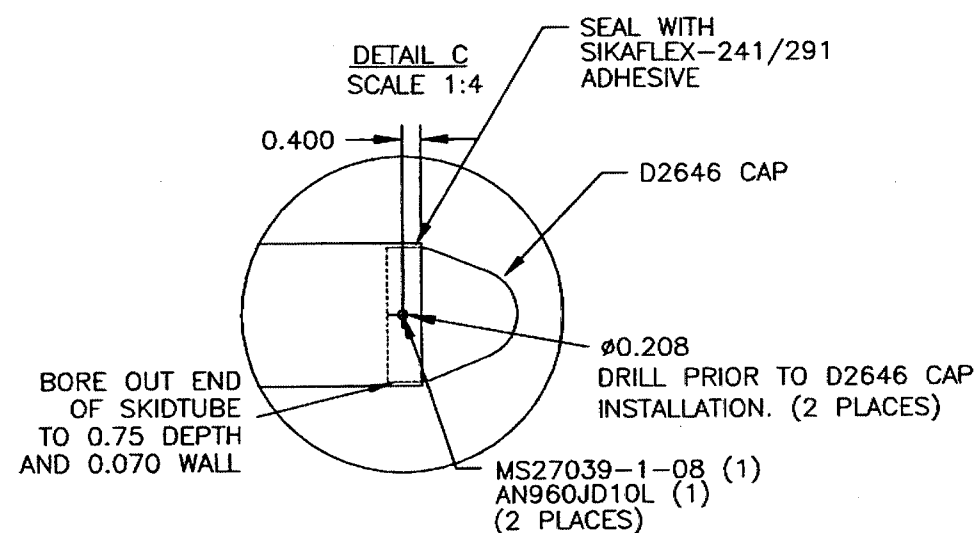
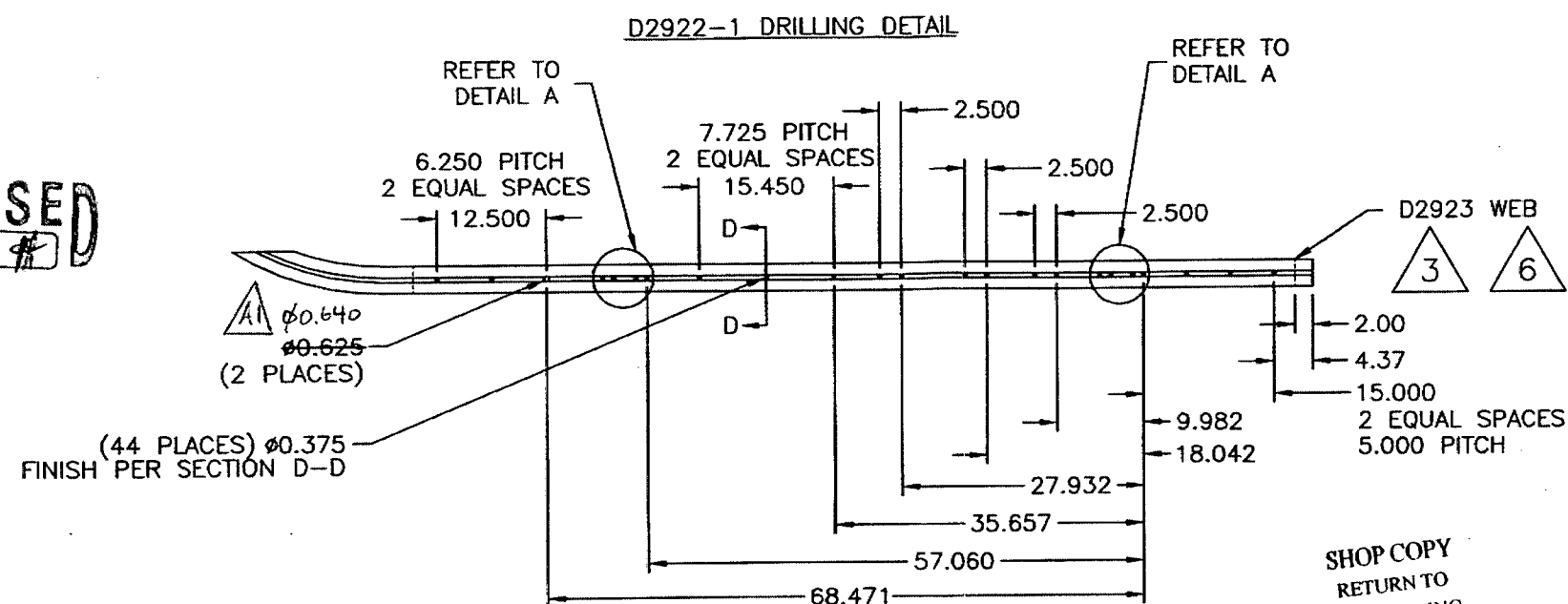
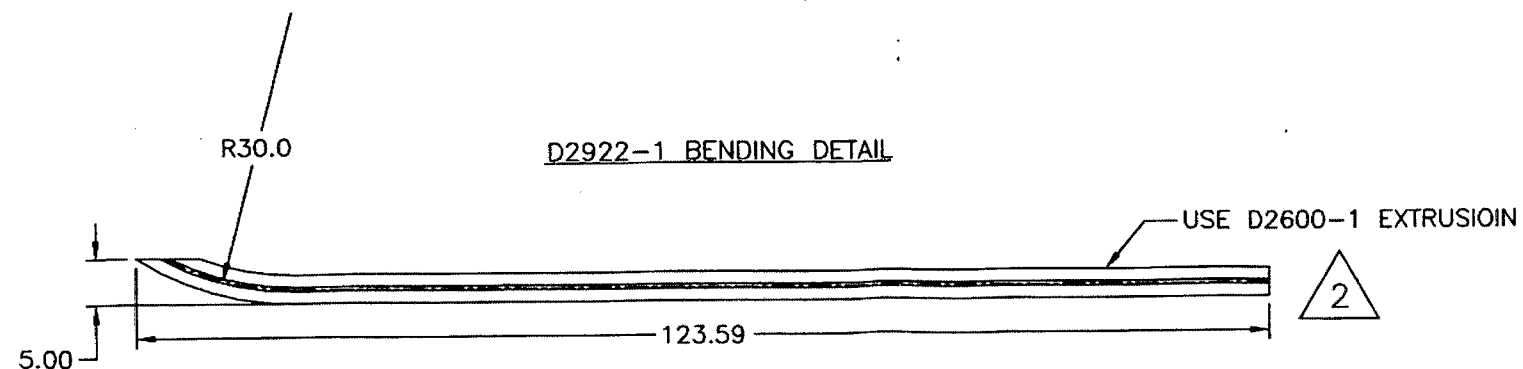
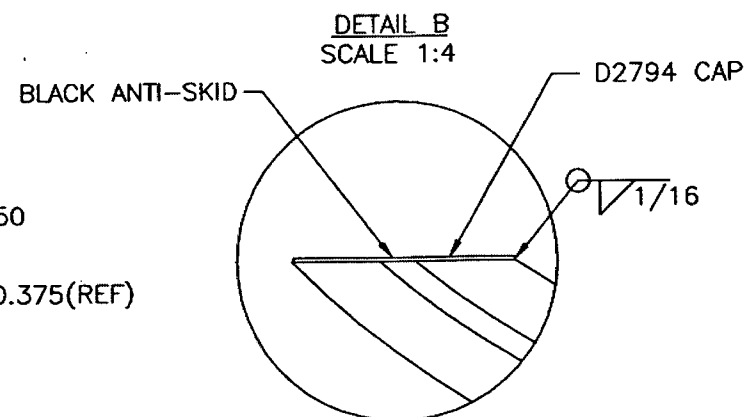
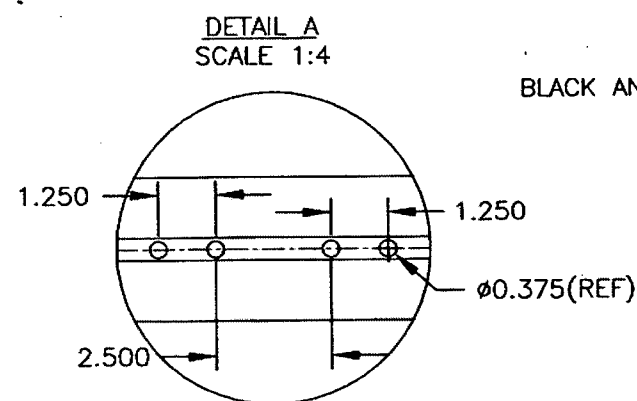
RELEASED
00.05.11 #

Qty	Part Number	Description
X	D2922-041	SKIDTUBE ASSEMBLY
*	D2600-1	EXTRUSION
1	D2646	AFT CAP
4	D2648-3	WEARPAD
1	D2648-5	WEARPAD
22	D2649	CROSS BOLT SPACER
20	D2651-1	PLUG
20	D2651-3	O-RING
1	D2656-15	WEARSHOE
1	D2656-21	WEARSHOE
1	D2794	CAP
1	D2923	WEB
1	D2924	WEARSHOE
50	AKS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or ALS4-1032-130	INSERT
52	AN960JD10L	WASHER
52	MS27039-1-08	SCREW

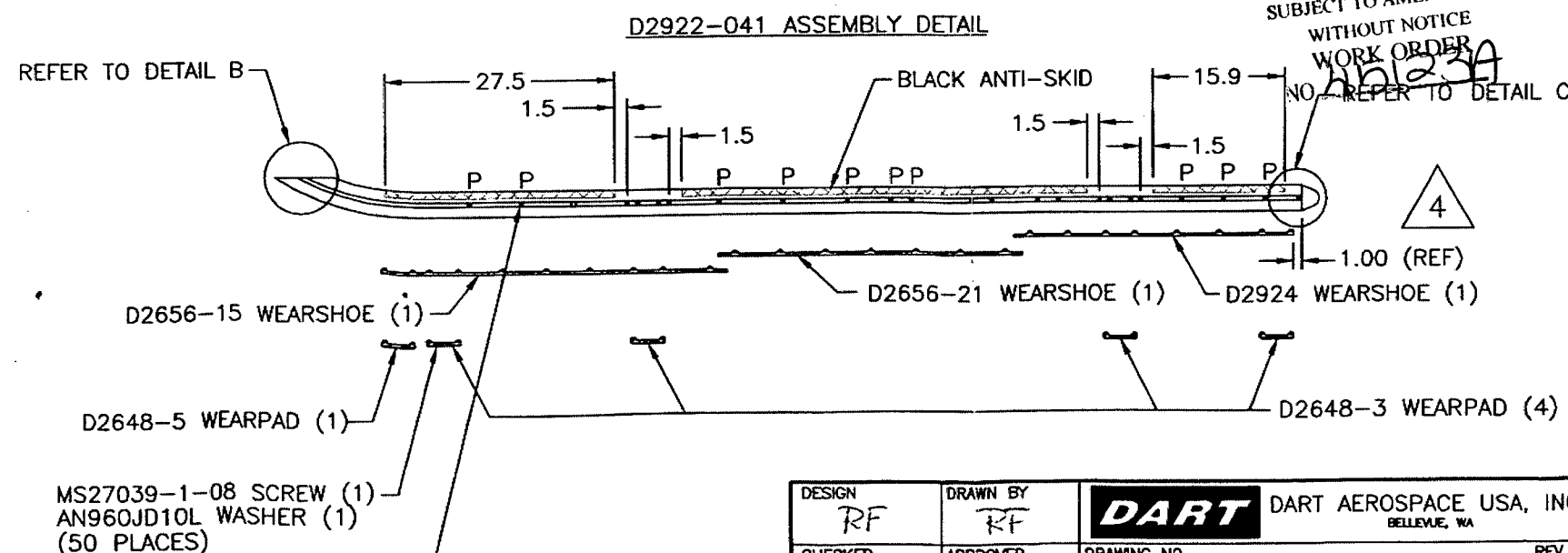
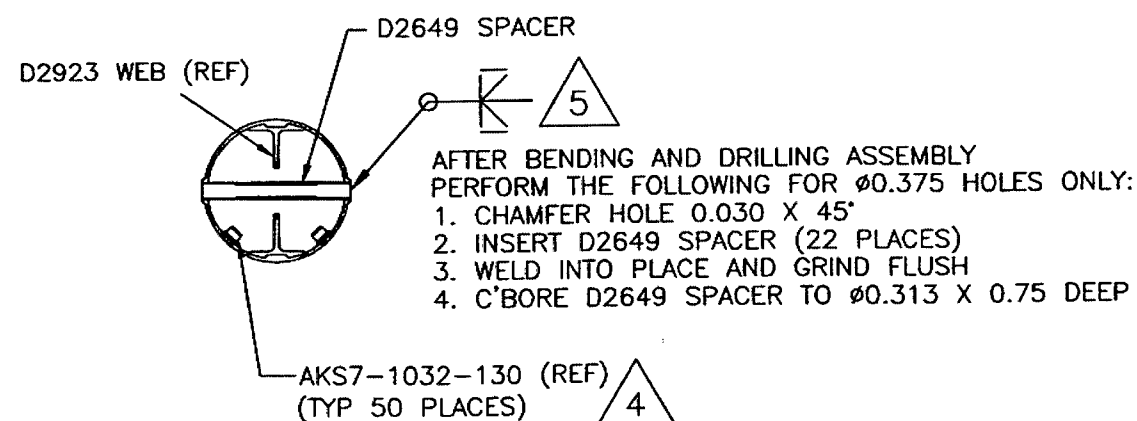
GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) LENGTH OF D2600-1 EXTRUSION REQUIRED BEFORE BENDING = 160 INCHES.*
- 3) INSERT D2923 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 4) USE DART DRILL TEMPLATE DT8406 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL AKS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL MS27039-1-08 SCREWS AND AN960JD10L WASHERS IN ALL INSERTS. SEAL WITH SIKAFLEX-241/291.
- 5) WELDING TO BE DONE PER DART QSI 004.
- 6) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2923 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.50 ABOVE LOCATION RIDGE PER RETURN TO DART QSI 005 4.4
- 7) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (20 PLACES).

SHOP COPY
ENGINEERING
UNLESS OTHERWISE NOTED
SHEET 1 OF 2
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 45123A



SECTION D-D
SCALE 1:4
FOR 0.375 HOLES ONLY



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 46123A
NO. REFER TO DETAIL C

DESIGN RF	DRAWN BY RF	DART DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED RF	APPROVED RF	DRAWING NO. D2922	REV. A SHEET 2 OF 2
DATE 99.10.14	TITLE OH-58 SKIDTUBE ASSEMBLY	SCALE 1:20	

RELEASED
00.05.11

NO. 191

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Berkeley Elliot
Job number: 45124 A
Part number: DOSB 670 041 / 5206 642 241
Description: 04 58 / 206 skid
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:
Penetration:

pass[☒] fail[]
pass[☒] fail[]

UNACCEPTABLE

Cracks:
Undercut:
Pin holes:
Overlap (cold lap)
Porosity (surface):
Coloration:

pass[] fail[]
pass[] fail[]
pass[] fail[]
pass[] fail[]
pass[] fail[]
pass[] fail[]

Qualifier Pet. Dignel Date of Test Coupon 9-1-28
Welder Berkeley Elliot Date of Test Coupon 9-1-28

The above named individual is qualified in accordance with AWS D17.1.2001 to weld